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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,949	10/23/2003	David M. Britz	2000-0097CON	6327
26652	7590	08/09/2005	EXAMINER	
AT&T CORP. P.O. BOX 4110 MIDDLETOWN, NJ 07748			LEUNG, CHRISTINA Y	
			ART UNIT	PAPER NUMBER
			2633	

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/691,949	Applicant(s) BRITZ ET AL.	
	Examiner Christina Y. Leung	Art Unit 2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,7,13 and 20-25 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22-25 is/are allowed.
- 6) ☒ Claim(s) 1,7,13,20 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Allowable Subject Matter

1. The indicated allowability of claims 1, 7, 13, 20, and 21 is withdrawn in view of the newly discovered reference(s) to Bloom (US 6,323,980 B1), Graves et al. (US 6,606,427 B1), Doucet et al. (US 6,348,986 B1) and Rutledge (US 5,844,705 A). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 13 is rejected under 35 U.S.C. 102(e) as being anticipated by Doucet et al. (US 6,348,986 B1).

Regarding claim 13, Doucet et al. disclose a communication hub (Figures 14 and 16) comprising:

a plurality of neighborhood links to corresponding users (such as subscriber transceiver units 3130A...N), where each link carries an optical signal having a wavelength assigned to a corresponding user (column 20, lines 62-67; column 21, lines 1-34);

an optical switch 3110 coupled to the plurality of neighborhood links to route the optical signals to the corresponding users (column 16, lines 35-67; column 17, lines 1-58); and

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a trunk coupled between the optical switch and a free space optical channel link to a network (optical router 3110 is connected to a network via primary transceiver unit 3120; column 32, lines 30-49).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bloom (US 6,323,980 B1) in view of Graves et al. (US 6,606,427 B1).

Regarding claims 1 and 7, Bloom discloses a communication system (Figures 2, 3, and 5) comprising:

a plurality of nodes (base stations 2 shown in Figure 5, shown in detail in Figures 2 and 3), each node including a switch 12 to controllably route signals from a plurality of in-ports of the switch into a plurality of out-ports of the switch (column 3, lines 39-55; column 5, lines 33-47); and

a plurality of point-to-point links 3 between each node and another of the plurality of nodes that interconnect the plurality of nodes into a network, each point-to-point link including a free space optical channel, a first free space optical channel coupling to a first node through a receive path and through a transmit path (via optical transceivers 10 within each base station as shown in Figure 2), the receive path coupling to a respective in-port of the switch of the first

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node, the transmit path coupling to a respective out-port of the switch of the first node (column 7, lines 18-31; column 10, lines 25-54).

Bloom disclose using switch 12 to switch signals that have been transmitted optically in the network, but Bloom does not specifically disclose that the switch 12 may be an all-optical switch. However, all-optical switches are well known in the art, and Graves et al. in particular disclose a related system including switching optical signals between input and output points (Figures 2a and 2b). Graves et al. further teach that an optical switch, particularly a micro electro-optical mirror switch, may be advantageously used instead of electrical switches to transfer and switch transmitted signals (column 1, lines 36-50; column 21, lines 9-50). Regarding claims 1 and 7, it would have been obvious to a person of ordinary skill in the art to use optical switches (micro electro-optical mirror switches in particular) as taught by Graves et al. instead of the electrical switches disclosed by Bloom in order to reduce the number of optical-to-electrical or electrical-to-optical converters in the systems and thereby reduce costs in the system.

6. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doucet et al. in view of Rutledge (US 5,844,705 A).

Regarding claim 20, Doucet et al. disclose a system as discussed above with regard to claim 13. They further disclose that the plurality of neighborhood links includes a plurality of optical telescopes (optical antennas 3510 in each subscriber transceiver unit 3130; see Figure 22), each telescope for sending and receiving the optical signal having a wavelength assigned to a corresponding user (column 20, lines 62-67; column 21, lines 1-34).

Doucet et al. further disclose an optical fiber link for carrying multiplexed optical signal to and from a network at a location disposed remotely from the communication hub (column 32,

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lines 30-49), but they do not specifically disclose an optical coupler for multiplexing and demultiplexing optical signals at the remote location. However, it is well known in the art that networks such as already disclosed by Doucet et al. may include multiplexing/demultiplexing couplers for combining and distributing signals as desired. In particular, Rutledge teaches a related system including an optical network (mobile telephone switching office 70) connected via an optical fiber link to a device (central antenna 30) for routing optical signals to users (Figure 3; column 4, lines 46-67; column 5, lines 1-39). Rutledge further teaches that the connected network 70 includes an optical coupler (including coupler 380) for multiplexing and demultiplexing optical signals.

It would have been obvious to a person of ordinary skill in the art to specifically include a coupler as taught by Routledge in the system disclosed by Doucet et al. in order to effectively combine and distribute a plurality of optical signals and thereby properly transmit optical signals having various wavelengths between a larger network and individual users.

Regarding claim 21, Doucet et al. disclose that the primary transceiver 3120 (which connects optical router 3110 to a network, wherein the network has a remotely disposed optical coupler as discussed above with respect to Doucet et al. in view of Rutledge; see Doucet et al, column 32, lines 30-49) includes at least one optical telescope (optical antenna 3710 shown in Figure 21) for sending and receiving an optical signal having a wavelength assigned to a corresponding user (column 20, lines 62-67; column 21, lines 1-34).

Allowable Subject Matter

7. Claims 22-25 are allowed.
8. The following is a statement of reasons for the indication of allowable subject matter:

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Bloom in view of Graves et al. generally describe a communication system as discussed above with regard to claim 1 including a plurality of nodes and a plurality of point-to-point links, and Doucet generally discloses a communication hub as discussed above with regard to claim 13 including a plurality of neighborhood links, an optical switch, and a trunk. However, the prior art, including Bloom, Graves et al., Doucet, and Routledge, does not specifically disclose or fairly suggest the communication system having the specific combination of elements and limitations arranged as recited in claim 22, particularly wherein the system includes a plurality of nodes each including an optical switch as recited, a plurality of point-to-point links each including a free space optical channel as recited, and further includes a communication hub as recited including a plurality of neighborhood links, where each link carries an optical signal having a wavelength assigned to a corresponding user, and a trunk coupled between the optical switch and a free space optical channel link to at least one of the nodes in network.

Response to Arguments

9. Examiner respectfully acknowledges the terminal disclaimer filed on 01 March 2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US 6,788,898 B1. However, again, the indicated allowability of claims 1, 7, 13, 20, and 21 is withdrawn in view of the newly discovered reference(s) to Bloom (US 6,323,980 B1), Graves et al. (US 6,606,427 B1), Doucet et al. (US 6,348,986 B1) and Rutledge (US 5,844,705 A).

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Conclusion


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Y. Leung whose telephone number is 571-272-3023.

The examiner can normally be reached on Monday to Friday, 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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